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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BAKER BOTTS LLP
44TH FLOOR
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112-4498

EXAMINER

HEITBRINK, JILL LYNNE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,412

Applicant(s)

HOFMANN, WERNER

Examiner

Jill L. Heitbrink

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) 4,5,9,12,13,18 and 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,10,11,19-21 and 26-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 30, 2004 has been entered.

Election/Restrictions

2. Claims 4, 5, 9, 12, 13, 18 and 22-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on Nov. 6, 2003. Applicant elected species A which is control of plastic injection molding machine speed and pressure, paragraph [0006].

3. The claims are not clearly defined in relationship to the disclosure. The examiner is using the following for support of the claims, however, the terms are not consistent between the claims:

Control unit--Fig. 2

First setpoint determination unit --FB1

First variable--x

Second variable--Pact

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First setpoint-- upper fed line to FB6 most likely "v"

Second setpoint determination unit-- FB4?

First internal variable--output from FB2, not clear for claims 19-21

Intermediate setpoint--upper output line from FB4, not clear for claims 19-21

Second setpoint--output from AS or output from FB5?

Machine control unit--FB6

Third variable--y, z

First unit--FB2?

Select unit--FB4?

Subtraction unit--AS

Function unit--FB5

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 19, lines 3-8 the second setpoint

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determination unit comprising two units, "a first unit" and "a select unit", does not have support in the original specification. FB4 performs the functions defined, but the structure is not defined. Additionally, FB2 is not part of FB4.

6. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 29, lines 2-4 "a first unit for generating said first intermediate pressure variable and a second unit for generating a second intermediate pressure variable from said time variable" does not have support in the original specification.

7.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-3, 6-8, 10, 11, 19-21 and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 7 "the first pressure profile" does not have antecedent basis. Also, "pressure/displacement profile" has already been defined in claim 3.

11. Claim 26 is confusing since it is dependent from claim 10 which has a step of "correcting said intermediate setpoint with a second variable to generate a second

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setpoint" and claim 26 has a step of "subtracting said second variable from said selected first or second internal variable to generate said second setpoint". Applicant should clearly define what is claimed and where these terms have support in the original specification.

12. Claims 3 and 10 are each independent claims, however, the meaning of intermediate and internal is not confusing and not clearly defined since the first variable is used to derive "a first internal variable" in claims 10 and "a first intermediate pressure variable" in claim 3.

13. Claims 26 and 27 are unclear as to from which unit the second setpoint is generated.

14. Claim 27 "said subtracted variable" does not have antecedent basis.

15. Claim 28 recites the limitation "said function unit" in line 1. There is insufficient antecedent basis for this limitation in the claim.

16. Claim 28 "is controlled by a parameter" is incorrect as to the operation of the function unit FB5 which receives a parameter, see page 12, lines 19-21 of the specification.

17. Claims 1 and 19 are unclear as to what are the second setpoint determination unit and the first internal variable. Claim 19 states "the second setpoint determination unit comprises a first unit for generating said first internal variable". However, this claim is dependent from claim 1 which states "a second setpoint determination unit receiving a first internal variable". The second setpoint determination unit should be clearly related to what is disclosed in the specification the second setpoint determination unit is

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not capable of receiving and generating the first internal variable. Which variable disclosed in the specification is the first internal variable and which unit is the second setpoint determination unit?

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1, 2, 6, 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraoka Pat. No. 5,371,450.

20. Hiraoka discloses an injection molding machine including a drive (servomotor 11) a control unit 30 and detectors for determining at least a first (position from 25) and a second (pressure from 18) variable fed to the control unit. The control unit comprises a first setpoint determination unit receiving the first variable S_z for generating a first setpoint S_y . A second setpoint determination unit receiving a first internal variable injection velocity (col. 11, lines 28-39) derived from the first variable (position and time are used to determine velocity) for generating an intermediate setpoint (the gain is used to adjust the pressure). The intermediate setpoint (output of changeover switch 51) is corrected by the second variable (pressure S_p) to generate a second setpoint S_q . The machine control unit (minimum value selector 30-3) receives the first S_y and second S_q set points for generating a machine control parameter S_g . The drive is used to advance

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a screw 21. As to claim 19, a third variable such as time is used in Hiraoka to determine velocity. The second setpoint determination unit comprises a first unit for generating said first internal variable (variation detecting unit), and a second unit for generating a second internal variable (velocity) from the third variable (time), and a select unit (51) controlled by a threshold (velocity) derived from the first variable for selecting the first or second internal variable for generating the intermediate setpoint. As to claim 20, the position control compensator 30-2 of Hiraoka (col. 6, lines 55-62) is disclosed as subtracting the second variable from the selected first or second internal variable and generating the second setpoint. As to the select unit selecting a first or second parameter set, Hiraoka (col. 11, line 52-col. 12 line 5) discloses a plurality of factors for determining the control gain in correspondence to the molding conditions and the use of an operation mode setting unit 72 selectively a set in consideration of the molding condition and the control gain being determined from a plurality of control gains.

21. Claims 3, 7, 8 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraoka Pat. No. 5,371,450.

22. Hiraoka disclose an injection molding machine for molding plastic parts comprising a motor 11 driven advancing screw 21 for driving the injection and generating an injection pressure (load cell 23). The machine includes means for detecting and registering the injection pressure (load cell 23) and position (25) of the screw as measured variable during operation of the injection molding machine. The control means generates a first setpoint S_y from the position variable S_z by a

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speed/displacement profile (24-2 and 24-3) and a first intermediate pressure variable (output of 51) from the position variable (used in units 55, 60 and 70) by a pressure profile S_r which is changed during different stages of injection (col. 9, lines 42-62). The first intermediate pressure variable is corrected by the pressure variable to generate (within unit 51 and 30-2) a second setpoint S_q . The first and second setpoints are fed to a machine control unit 30-3 for generating a motor control parameter for the motor. A time variable is used in Hiraoka for determination of velocity and the pressure setting.

23. Claims 10, 11 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiraoka Pat. No. 5,371,450.


24. Hiraoka discloses determining a first setpoint S_y from the first variable S_z . An intermediate setpoint (output of 51) is determined from a first internal variable (gain) derived from the first variable S_z in the operation mode setting unit. The intermediate setpoint is corrected (within the pressure control compensator 30-2) with a second variable S_p to generate a second setpoint S_q . The first setpoint is determined by a speed/displacement profile (generated and subtracted in 24-2 and 24-3). The first internal variable is determined by a pressure/displacement profile S_r which is changed during different stages of injection (col. 9, lines 42-62). A second internal variable (gain in unit 51) is determined based on time and the pressure profile (units 60 and 70). The threshold is based on velocity which is determined from the first variable. The second variable is subtracted from the selected first or second internal variable to generate the second setpoint within the position control compensator 30-2 see Hiraoka (col. 6, lines 55-62).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill L. Heitbrink whose telephone number is (571) 272-1199. The examiner can normally be reached on Monday-Friday 9 am -2 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaiani can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill L. Heitbrink
Primary Examiner
Art Unit 1732

jlh